U.S. Department of Commerce
National Institute of Standards and Technology
Gaithersburg, MD 20899-2350

Certificate Number: 00-036A1

National Type Evaluation Program

Certificate of Conformance

for Weighing and Measuring Devices

For:

Retail Motor Fuel Dispenser
Electronic Computing
Model: Exx Series
Generic Name: Gilbarco, Eclipse
Capacity: $999.99 Total Sale
999.999 Total Volume
$9.999 Maximum Unit Price

Submitted by:

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Standard Features and Options

* The specific model designations of devices covered by this Certificate are listed below and on Page 2.

Meter Model	T19976 GX
	"C +" Meter
Minimum Flow Rate	1.5 gpm
Maximum Flow Rate	12 gpm
All units have the electronic totalizer as a standard feature.	

Back-lighted liquid crystal displays (LCD)
Battery back-up for up to 72 hours
Electronic totalizer with volume and sales up to 9 999 999.99 units
Nozzles lane-oriented and high-hose attachment
Down loadable software
Category 1 Device (see sealing)
Stand-alone or console controlled

Options:

Lever-activated nozzle	Key control	Programmable pump preset
Cash/credit	Preset cash and/or credit	Cash acceptor
CRIND (card reader in dispenser)	10.4 inch LCD display	InfoScreen
TRIND (transmitter/receiver in dispenser)	Intercom/overhead speaker	Bar code scanner
Full vapor recovery	Vapor recovery ready	"VaporVac"
Brand lighting/light conduit	10.4 inch "Touch Screen" display	5.7 inch "Monochrome" display
10.4 inch "Soft Key" display	Push-to-start (activates pump if nozzle is lifted)	

Electrical Mechanical totalizer (up to 999 999.9 units)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: August 31, 2000

Henry V. Oppermann
Chief, Office of Weights and Measures
Issue Date: September 27, 2000

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Retail Motor Fuel Dispenser
Model: Exx Series

Application: For use in dispensing gasoline and diesel motor fuel at retail service stations, attended or unattended, with approved and compatible equipment. These dispensers are approved for use with Phase II vapor recovery equipment and approved bootless nozzles when the system and components are certified and comply with the zero-set-back interlock requirements.

Identification: The identification badge, metal or a self-destructive badge, is on the lower half of the side column dividing the A & B sides of the dispenser.

Model Designation: The specific characters in the model designation are represented below:

Position 1	Position 2 & 3	Hydraulics Description	Grade / Hose	Not Part of Model Code
E = Eclipse	G0	Dispenser Single Hose	3 Grade	G = Single Hose
	L0	Blender Dispenser X + 1	2 + 1 Grade	L = X + 1 Blender
	L1	Blender Dispenser X + 1	3 + 1 Grade	
	L2	Blender Dispenser X + 1	4 + 1 Grade	
	L3	Blender Dispenser X + 1	5 + 1 Grade	
	N0	Blender Dispenser X + 0	2 + 0 Grade	N = X + 0 Blender
	N1	Blender Dispenser X + 0	3 + 0 Grade	
	N2	Blender Dispenser X + 0	4 + 0 Grade	
	N3	Blender Dispenser X + 0	5 + 0 Grade	

Sealing: The Eclipse Series device has no remote configuration capability and is classified as a Category 1 device. Access to all metrological features and functions are controlled through the use of a sealable security switch. The security switch has two positions, "normal/sealed" and "calibration/configuration." When the security switch is in the "calibration/configuration" position, sealable parameters including meter calibration, gallon/liter settings, and blend ratio settings can be accessed. Access to sealable parameters is prevented by placing the security switch in the "normal/sealed" position and threading a wire security seal through the hinged cover which fits over the security switch. The wire security seal must be broken in order to lift the hinged cover and to move the security switch to the "calibration/configuration" position.

Electronic calibration (E-cal): Access to the electronic calibration feature is through the security switch described above. With the switch in the "calibration/configuration" position, a calibration code and the volume of the volumetric standard are entered into the keypad next to the security switch. Product is then dispensed into the standard, a delivery error is determined in cubic inches, and the error value is entered into the keypad. The security switch is then returned to the normal operating ("normal/sealed") position and the switch cover is sealed with a wire security seal.

Gallon/Liter setting: Access to the gallon/liter setting is through the security switch described above. With the switch in the "calibration/configuration" position, a conversion factor is used to program all Eclipse® Series dispensers to indicate in gallons or liters. Gallon/Liter setting information can also be viewed without entering the configuration mode. With the switch in the "normal/sealed" position, the number of times that the conversion factor has been changed since the initial installation can be displayed in the main "Volume" display by pressing "ENTER" on the manager's keypad. Press any other key to revert to the normal display. See "examples" shown below.

Blend ratio setting: Access to the blend ratio setting is through the security switch described above. On customer-selectable and fixed-blenders, the individual blend ratios for each grade may be programmed at the dispenser. Blend ratio information can also be viewed without entering the configuration mode. With the switch in the "normal/sealed" position pressing "ENTER" on the manager's keypad causes the display at the dispenser to indicate the number of times the blend ratio has been changed as shown below.

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EXAMPLES:
The **ENTER** key is used to display blender information on a unit that is configured for blends. If the unit is not a blender then no action is taken when the **ENTER** key is depressed. The **CLEAR** key is used to exit blend info mode. The unit will also exit blend info mode after 1 minute has elapsed.

Blend information is displayed in the following format:
Sale Display: XXXX - Number of times blend ratios have been adjusted. Example - 0018 would indicate that the blend ratios have been changed 18 times.

Volume Display: XXXX - Number of times volume units have been adjusted. Example - 0019 would indicate that the volume unit has been changed from liters to gallons and gallons to liters a total of 19 times.

PPU Grade Display: XXX - Each PPU Grade will display the percentage of the lowest octane pure product portion of the blend. Example: A three-grade blender could show this: PPU 1 100, PPU 2 83, PPU 3 75. This would indicate that grade one was composed of 100% of the low octane pure product, grade two was composed of 83% of the low octane pure product, and grade three was composed of 75% of the low octane pure product.

Operation: The unit is provided as a dispenser (no pumps or motors). The unit is provided in several configurations as listed in the model code section on Page 2 (i.e., multi hose, single hose, blender, standard flow) and may be provided with multiple options as listed in the options table. Major options are described below.

CRIND Option - Units may be provided with a CRIND (Card Reader in Dispenser) option. Customers follow operational instructions on the main or CRIND display. Credit/debit/loyalty or other form of card is inserted into the card reader. The card is verified and the transaction is initiated. The card account holder will be charged with the purchase at the completion of the transaction. Customers are given the option to request a printed receipt. Customers may cancel the transaction by pressing CANCEL on the CRIND keypad. The unit will automatically cancel the transaction if fueling does not start within three minutes of inserting the card.

VaporVac Option - The vacuum-assist vapor recovery option for this series consists of an explosion-proof motor driving a vacuum pump. The motor(s)/pump(s) are in the hydraulic section of the dispenser. The PC board for the electronic vacuum pump-controller is in the electronic section of the dispenser. The PC board monitors the rate at which gasoline is dispensed and then proportionally controls the motor(s)/pump(s) speeds. The rate of vapor recovery is proportional to the product flow rate. Each hose is equipped with an electronically-operated vapor valve, which operates without isolating hoses.

TRIND Option - Units equipped with the "TRIND" (transmitter/receiver in the dispenser) are authorized by radio frequency communication. The transponder tag, mounted in the vehicle or hand-held unit, communicates to the receiver in the dispenser of the customer's predetermined preferences. The transponder may be overridden by using a credit card or the transaction canceled by pressing the "CANCEL" button. Transponders are not capable of concurrent use at multiple fueling positions or consecutive use at the same dispenser.

Barcode Scanner - Units may be equipped with a barcode scanner. Customers follow operational instructions on the main or CRIND display. A barcode is placed within the scan area of the unit. Information from the barcode may be used to access special pricing or functions that only the holder of the barcode is authorized to view. The customer selects the special pricing using controls on the unit. The special pricing/functions reverts back to normal pricing/functions when the pump handle is returned to the off position or the transaction is canceled.

Electronic Totalizers - Totals can be retrieved electronically at the dispenser by using the modular keypad. This keypad sits behind the locked access door on the "A" side of the electronics module.

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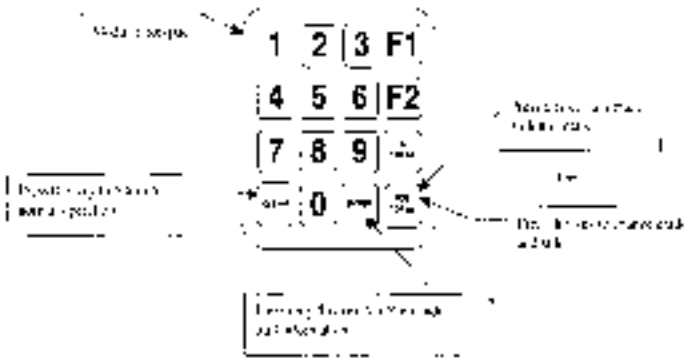
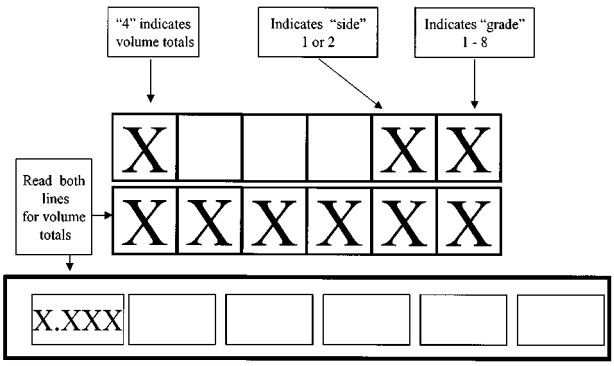
Operation (Continued):



The **VOL TOTAL** key is used to retrieve volume totals for each fuel grade. These key functions do not require a security code to access. Just press the **VOL TOTAL** button. The **CLEAR** key is used to exit volume total or audit trail modes.

Retrieving VOL TOTAL Examples:

Press **VOL TOTAL** - display changes from normal to volume totals
Press **Enter** to change the flashing display location to the first digit
Press **1** for side one or **2** for side two
Press **Enter** - flashing display moves to the second digit
Press 1 or 2 or 3 or 4 or 5 or 6, etc., for grades
Read electronic totalizer for each side and grade
Press **Clear** to return to normal mode



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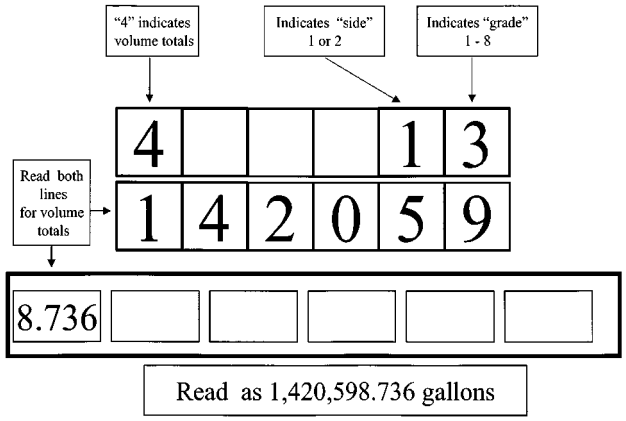
Operation (Continued):

The sample below shows a volume total of **1 420 598.736** gallons on side 1, product 3.

Electronic totalizer can display up to 9 999 999.999 units (gallons or liters).



Test Conditions: This Certificate supersedes Certificate of Conformance (CC) Number 00-036 and is issued to correct the method of sealing used in the device, to reflect the elimination of the event logger capability from the device, and to include additional information in the original test conditions. This CC is issued based upon information provided by the manufacturer, the previous evaluation, and an evaluation of the sealable features on a recently-installed Encore Series (which is identical to the Eclipse Series except for some external differences) in conjunction with CC Number 00-035A1. Under CC Number 00-035A1, an Encore Series dispenser was installed in a field site interfaced with a console for the purposes of the evaluation. The emphasis of the evaluation was on the method of accessing the sealable features on the device and the security provided to control access to the features. A summary of the changes to this CC, 00-036A1, as a result of this evaluation are outlined below followed by the previous test conditions.

The original CC, Number 00-036, incorrectly stated that the blend ratios can be configured at the device or remotely through the console. All sealable features, including the blend feature, are accessed only through a physical switch at the device which is protected by a physical security seal. Because its sealable features cannot be accessed remotely, the device is categorized as a "Category 1" device. Access to these features is protected by a physical seal as described under "Sealing." The operation of the physical switch to access sealable parameters and the method of sealing that switch was evaluated in the original evaluation of the device. Additionally, current operation of accessing and securing the sealable parameters was verified as described in the evaluation above.

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Test Conditions (Continued):

The original CC listed an "event logger" as a feature for providing information concerning changes to sealable parameters. An event logger is required for devices with unlimited remote access, that is, for "Category 3" devices. While the device originally evaluated included an event logger similar to that required in Category 3 devices, the device did not have unlimited remote access and an event logger was not required; the manufacturer chose to provide the event logger only as supplemental information. The manufacturer has now chosen to eliminate the event logger feature from the device. As a Category 1 device, the device does not have unlimited access to sealable parameters, and an event logger is not required. The deletion of this feature was confirmed during the evaluation described above, and the CC has been modified accordingly.

Certificate of Conformance Number 00-036: This device, generically known as the Eclipse Series, is identical to the Marconi Encore Series retail motor-fuel dispenser (which is covered under CC Number 00-035 and which was evaluated in conjunction with the Eclipse Series) except for some external differences between the profile of the Eclipse and Encore Series devices. All other operational and design features and options are the same. Based upon the similarity in these two devices, this CC was issued based upon the tests performed in conjunction with CC Number 00-035 and an evaluation of the Eclipse at the manufacturer's facility for compliance with visibility and interlock requirements. The test results for CC Number 00-035 for the Encore Series are included below for reference.

Certificate of Conformance Number 00-035: The emphasis of the evaluation of this device, generically known as the Encore Series, was on the operation and performance of the device. A unit was evaluated at the manufacturer's facility where more than 1 000 000 gallons of product were run through the device. Additionally, a unit was installed in a field installation where it was evaluated initially and again after 20 days to evaluate the operation of the electronics. Tests were conducted at both the field sites and laboratory for all options listed on page 1of this CC. Additionally, the options listed on page 1 are identical to those evaluated in conjunction with CC Number 90-115A9 for the Marconi (formerly Gilbarco) Advantage Series.

The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements of NIST Handbook 44.

Type Evaluation Criteria Used: NIST Handbook 44, 2000 Edition

Tested By: R. Murdock, J. Butler, W. Scruton (NC) 00-036; R. Murdock, J. Butler (NC) 00-036A1

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